

United States Government

Department of Energy
Bonneville Power Administration

memorandum

DATE: March 2, 2004

REPLY TO
ATTN OF: KEP-4

SUBJECT: Supplement Analysis for the Transmission System Vegetation Management Program FEIS
(DOE/EIS-0285/SA-193-Big Eddy-Midway #1)

TO: Elizabeth Johnson
Natural Resource Specialist – TFR/The Dalles

Proposed Action: Vegetation Management for the Big Eddy-Midway #1 500 kV and the McNary-Ross #1 345 kV transmission lines.

Location: Project location is in the BPA Redmond Region in Klickitat County, Washington.

Proposed by: Bonneville Power Administration (BPA)

Description of the Proposal: BPA proposes to clear unwanted vegetation from the rights of way and access roads for BPA's Big Eddy-Midway and McNary-Ross transmission line corridors.

Analysis: A checklist (see attached) was completed for this project in accordance with the requirements identified in the Bonneville Power Administrations Transmission System Vegetation Management Program FEIS (DOE/EIS-0285). The checklist evaluated the following areas:

- *Description of right-of-way and vegetation management needed*
- *Vegetation to be controlled*
- *Surrounding land use and landowners*
- *Natural Resources*
- *Vegetation control methods*
- *Debris disposal*
- *Monitoring*
- *Appropriate environmental documentation*

In preparation of this Supplement Analysis, the checklists were reviewed. Specific information regarding the areas as identified above is described in the attached checklists.

Findings: This Supplement Analysis finds that 1) the proposed actions are substantially consistent with the Transmission System Vegetation Management Program FEIS (DOE/EIS-0285) and ROD, and; 2) there are no new circumstances or information relevant to environmental concerns and bearing on the proposed actions or their impacts. Therefore, no further NEPA documentation is required.

/s/ Aaron Shurtliff

Aaron Shurtliff
Physical Scientist

CONCUR: /s/ Thomas C. McKinney
Thomas C. McKinney
NEPA Compliance Officer

DATE: 3/15/2004

Attachment

cc:

L. Croff - KEC-4
T. McKinney - KEC-4
J. Meyer - KEP-4
J. Sharpe - KEPR-4
F. Walasavage – KEP/Celilo
P. Key - LC-7
J. Hilliard Creecy - T-DITT2
K. Rodd – TF/DOB-1
R. Melzer – TFR/Redmond
R. Fouse Jr. – TFR/ Redmond
W. Banker – TFR/The Dalles
Environmental - KEC-4
Official File - KEP (EQ-14)

Vegetation Management Checklist

1. IDENTIFY FACILITY AND THE VEGETATION MANAGEMENT NEED

See Handbook — List of Right-of-way Components for checkboxes and the requirements for the components Rights-of-way, Access Roads, Switch Platforms, Danger Trees, and Microwave Beam paths.

1.1 Describe Right-of-way. Control of noxious weeds and vegetation within the Big Eddy-Midway and a portion of the McNary-Ross Transmission Line corridor for The Dalles TLM District. Noxious weed control to be performed by Klickitat county.

Corridor Name	Corridor Length & kV	Easement width	Miles of Treatment
Big Eddy-Midway 2/3-35/3	35 Miles – 500 kV	125-500 ft. wide	35 Miles
McNary-Ross 91/5-96/2	144 miles - 345 kv	250 ft. wide	5 miles

Right Of Way – 530 acres:

Transmission Structures – includes mowing/hand cutting around structures.

Access Road clearing - includes mowing access roads – 5 miles

Vegetation & noxious weed management – row corridor & access roads.

1.2 Describe the vegetation needing management.

See handbook — [List of Vegetation Types](#), [Density](#), [Noxious Weeds](#) for checkboxes and requirements.

Vegetation Types: occasional/scattered pine, oak, Russian olive, willow, & other hardwoods.

Noxious Weeds - Knapweed species, yellowstar thistle, medusa head, purple loosestrife, dalmation toadflax, Scotch/Canada/Bull Thistle, morning glory, jointed goat grass, kochia, whitetop, spike weed, perennial pepperweed, skeleton weed, and other county listed weeds. Vegetation & county weed boards required to control noxious weeds on row, around structures and along access roads. Where applicable, noxious weeds will be treated with a foliar application of an approved herbicide and applied according to label requirements. Herbicide and surfactant/adjutant will be approved by COTR prior to application. All buffers will be maintained according to buffer table in EIS. Klickitat County Weed Dept. is very aggressive in managing noxious weeds and currently has a contract with BPA to help manage weeds w/in Klickitat County. However, vegetation mgmt & noxious weed control will be done simultaneously w/brush contractors to effectively control spread of weeds.

Vegetation management work shall commence May 2004 and completed by July 2004.

1.3 List measures you will take to help promote low-growing plant communities. If promoting low-growing plants is not appropriate for this project, explain why. See Handbook — for requirements and checkboxes.

Bonneville’s overall goal is to have low-growing plant communities along the rights-of-way to control the development of potentially threatening vegetation. In some areas where the line is w/in 40’ or less distance to ground, this is not possible.

Tall-growing vegetation that is currently or will soon be a hazard to the line will be removed. Cut-stump or follow-up herbicide treatments on resprouting-type species will be carried out to ensure that the roots are killed.

Vegetation that will grow tall will be selectively eliminated before it reaches a height or density to begin competing with low-growing species.

Desirable low-growing plants will not be disturbed. Only selective vegetation control methods that have little potential to harm non-target vegetation will be used.

- Areas will be replanted or reseeded with low-growing species.**

Suggested Seed mixture to reduce and prevent noxious weeds.

Approved and Suggested seeds	*Native	Reason for seeding
Mixes can be developed from the following seed species. Based on site and adaptation.	N=Native I=Introduced	Re-seeding and Fertilization after noxious weed treatments has been shown to be effective in preventing the re-establishment of noxious weeds and which reduces the need for future herbicide applications
<u>Name</u>		
Sheep fescue (Festuca ovina)	N	
Smooth Brome	I	
Canada bluegrass (Poa compressa)	N	
Big Bluegrass	N	
Intermediate Wheatgrass	I	
Bluebunch Wheatgrass	N	
Pubescent Wheatgrass	N	
Sand dropseed	N	
Needlegrass	N	
Crested Wheatgrass	I	
Perennial Ryegrass	I	
Sickle-keeled lupine	N	
And/or Lupinus bicolor	N	
Clovers	I	
Alfalfa	I	

1.4 Describe overall management scheme/schedule.

See Handbook - [Overall Management Scheme/Schedule](#).

Initial entry – Vegetation maintenance contract will be awarded to cut and/or treat tall growing along row & access roads. Occasional tall growing vegetation will be hand cut or cut with mechanical methods either by patrol linemen or contractors. Hardwood stumps will be treated with herbicide to prevent re-sprouting. Slash will either be lopped and scattered or mulched. Access roads & tower sites will be mowed to prevent encroachment of vegetation. Occasional herbicide may used to prevent regrowth. The selection of methods and herbicides vegetation management will be based on location and proximity to water resources. Treatment will be spot or localized.

Noxious Weeds - Annual contracts are given to the Klickitat County noxious weed control board to assist landowners in controlling noxious weeds on the listed lines. The weed boards perform survey, educate, control, eradicate and monitor county listed noxious weeds w/in in the ROW. Noxious weeds are non-native, invasive plants that are highly destructive, competitive or difficult to control and, once established, threaten natural resources and economy. Noxious weed species will be controlled using an Integrated Vegetation Management Approach (IVM) including a combination of manual, mechanical herbicides, and biological methods.

The selection of methods and herbicides for noxious weed management will be based on their location and proximity to water resources. Treatment will be spot, localized and broadcast treatments (see descriptions). Non-selective treatments using ground and aerial broadcast treatment may be required in areas of high infestation of weeds on the ROW, along access roads and tower sites. Localized and Broadcast Granular treatments will also be considered.

Subsequent entries – Tree/brush contracts will be required approx. every 8 yrs. Noxious weed contracts will be provided annually to local weed boards to control noxious weeds.

Future cycles – Same as above.

2. IDENTIFY SURROUNDING LAND USE AND LANDOWNERS/MANAGERS

2.1 List the types of landowners and land uses along your corridor.

See Handbook — [Landowners/Managers/Uses](#) for requirements, and [List of Landowners/Managers/Uses](#) for a checkbox list.

- Agricultural**
- Grazing lands**
- WA. State Dept of Natural Resources
Corps of Engineer – The Dalles District**

2.2 Describe method for notifying right-of-way landowners and requesting information (i.e., doorhanger, letter, phone call, e-mail, and/or meeting). Develop landowner mail list, if appropriate.

See Handbook — [Methods for Notification and Requesting Information](#) for requirements.

County weed boards are required to contact landowners to inform them of dates planned for noxious weed work to be done on their property. The weed superintendents know most of the ranchers and have developed excellent rapport over the years. Very positive responses from landowners regarding this program. For trees and brush, NRS will send notification letters to those landowners providing information on timing, etc.

2.3 List the specific land owner/landuse measures — determined from the handbook or through your consultations with the entities — that will be applied.

See handbook — [Requirements and Guidance for Various Landowners/Uses](#) for requirements and guidance, also [Residential/Commercial](#), [Agricultural](#), [Tribal Reservations](#), [FS-managed lands](#), [BLM –managed lands](#), [Other federal lands](#), [State/ Local Lands](#).

Landowner letters will be sent out 3 weeks prior to commencement of operations. Other methods will include door hangers, phone call, e-mail, and/or individual meetings to 1) notify landowners where Bonneville has a right-of-way easement to inform them of upcoming activities, 2) request any information that needs to be considered.

Copies of the checklist will be sent to State DNR & Forest Service. Cover Letter will ask for any other info that needs to be considered. Any concerns brought to my attention will be discussed, mitigated or avoided.

Each county weed superintendent is required to follow the environmental standards outlined in BPA’s veg. mgmt FEIS as well as work directly with individual landowners & agency representatives on identifying locations, appropriate herbicide methods and method of control, and monitoring results. The State & Corps also have contracts with the same weed boards to help them

eradicate noxious weeds on their properties. Buffer width tables, approved herbicide lists, and toxicity tables are included in contracts.

Most of the row is either dry cropland or rangeland and the following list of requirements apply: Prevent the spread of noxious weeds by cleaning seeds from equipment before entering cropland. If using herbicides on grazing lands, comply with grazing restrictions as required per herbicide label.

If using herbicides near crops for consumption, comply with pesticide-free buffer zones, if any, as per label instructions.

For rights-of-way adjacent to agricultural fields, observe appropriate buffer zones necessary to ensure that no drift will affect crops.

2.4 Review any existing landowner agreements (e.g. tree/brush Permits or Agreements). List in table above any provisions that need to be followed and where they are located.

See handbook — [Landowner Agreements](#) for requirements.

None identified.

2.5 List any known casual informal use of the right-of-way by non-owner publics. List any constraints or measure’s to take due to the informal use.

See handbook — [Casual Informal Use of Right-of-way](#) for requirements.

Hunters/recreationists may occasionally use the row. The planned entry is not expected to affect their use.

2.6 List other potentially affected people, agencies, or tribes (that are not landowners/managers) that need to be notified or coordinated with. Describe method of notification and coordination.

See handbook — [Other Potentially Affected Publics](#) for requirements and suggestions.

None identified.

3. IDENTIFY NATURAL RESOURCES

See Handbook — [Natural Resources](#)

3.1 List any water resources (streams, rivers, lakes, wetlands) that may be impacted by vegetation control activities. For each water body describe the control methods and requirements or mitigation measures that will be used.

See Handbook — [Water Resources](#) for requirements for working near water resources including buffer zones.

- § In riparian areas, use selective control methods and take care not to affect non-target vegetation.
- § Leave vegetation intact, where possible.
- § Reseed all soil disturbed sites within 400 feet of a stream.
- § Any discharge of material (displaced soils, and in certain circumstances, vegetation debris) within a water of the U.S. may be subject to U.S. Army Corps of Engineers regulations under the Clean Water Act.
- § Do not permit debris from tree falling, cutting, or disposal to fall into or be placed in any watercourse, spring, pond, lake, or reservoir, unless there is approval from the appropriate authorities for stream habitat projects.
- § Do not burn piled vegetative debris in or next to watercourses.

- § For all methods using machinery or vehicles (i.e. chainsaws, trucks, graders) keep the equipment in good operating condition to eliminate oil or fuel spills.
- § Do not wash equipment or vehicles at a stream.
- § Notify inspector and the State of any amount of herbicide spill in or near water.
- § Consider climate, geology, and soil types in selecting the herbicide/adjuvant with lowest relative risk of migrating to water resources.
- § Use herbicide-thickening agents (as appropriate), label instructions, and weather restrictions to reduce the drift hazard to water resources.
- § When using granular formulations, consider overall climate and daily weather in ensuring herbicides are not washed offsite.
- § Always use appropriate anti-siphon devices/methods when filling herbicide tanks from any water sources.
- § Before herbicide application, thoroughly review the right-of-way to identify and mark, if necessary, the buffer requirements of competing resources.
- § The buffers in tables III-1 and III-2 are to be used unless other agencies, local authorities, or T&E consultations require more strict buffers. In cases of more strict local buffers, those would apply.
- § For noxious weed treatment, try to apply buffer zones, recognizing that treatment may be necessary within zones for control in compliance with local weed boards and Federal noxious weed laws.

Table III-1: Buffer Widths to Minimize Impacts on Non-target Resources

Herbicide & Adjuvant Ecological Toxicities and Characteristics	Buffer Width from Habitat Source per Application Method (i.e., stream, wetland, or sensitive habitat)				
	Spot	Localized	Broadcast¹	Aerial²	Mixing, Loading, Cleaning
Practically Non-Toxic to Slightly Toxic	Up to Edge ^{3,4}	Up to Edge ^{3,4}	10.7m ^{3,4} (35 ft.)	30.5m ⁴ (100 ft.)	30.5m ⁵ (100 ft.)
Moderately Toxic, or if Label Advisory for Ground/Surface Water	7.6m ^{3,4} (25 ft.)	10.7m ^{3,4} (35 ft.)	30.5m ^{3,4} (100 ft.)	76.2m ⁴ (250 ft.)	76.2m ⁵ (250 ft.)
Highly Toxic to Very Highly Toxic	10.7 m ^{3,4} (35 ft.)	30.5m ^{3,4} (100 ft.)	Noxious weed control only. Buffer as per local ordinance	Noxious weed control only. Buffer as per local ordinance	76.2m ⁵ (250 ft.)

The buffers in this table are to be used unless other agencies, local authorities, or T&E consultations require more strict buffers. In cases of more strict local buffers, those would apply.

See table 7a for general aquatic toxicities of and label advisories of the active ingredients.

1 Using ultra low volume (ULV) nozzles with orifice size and spray pressure set to produce droplets at a minimum of 150 microns, boom or nozzle heights at the lowest possible height, and cross-wind speed of less than 10 mph.³

2 Using ULV nozzles with orifice size and spray pressure set to produce droplets at a minimum of 150 microns, minimizing air shear relative to nozzle angle and aircraft speed, boom length at 70% or less of wingspan/rotor, swath adjustment not to exceed 60 feet based on maximum cross-wind speed of less than 10 mph, minimum safety clearance application height, and herbicide tank mixture dynamic surface tension is less than 50 dynes/cm.³

3 Goodrich-Mahoney, J.W., Determination of the Effectiveness of Herbicide Buffer Zones in Protecting Water Quality, Electric Power Research Institute, Report No. TR-113160, September 1999

4 Calculated from: A Summary of Ground Application Studies, Spray Drift Task Force, 1997

5 BPA Best Management Practice

Table III- 4: Mechanical Buffer Zones

Ground-disturbing Mechanical Methods	Buffer Width From Habitat Source, i.e., Stream or Wetland
Slopes under 20%	10.7 m (35 ft.)*
Slopes over 20%	No disturbance

The buffers in this table are to be used unless other agencies, local authorities, or T&E consultations require more strict buffers. In cases of more strict local buffers, those would apply.

Span		Waterbody	T&E?	Method	Herbicide	Application Technique	Buffer	Other
To	From							
2/1A	2/2A	Spearfish Lake.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
3/2	3/3	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
3/4	3/5	Fivemile Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
4/2	4/3	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
5/1	5/2	Intermittent	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
5/2	5/3	Eightmile Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
6/1	6/2	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
6/2	6/3	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
6/3	7/1	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
8/1	8/2	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon

Span		Waterbody	T&E?	Method	Herbicide	Application Technique	Buffer	Other
To	From							
8/3	9/1	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
9/3	9/4	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
9/6	10/1	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
11/2	11/3	Intermittent Crs.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
11/3	11/4	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
11/6	12/1	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
12/2	12/3	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
12/4	12/5	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
12/5	12/6	Intermittent Crs.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
13/1	13/2	Perennial Crs.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
13/2	13/3	Intermittent Crs.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
13/5	14/1	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
14/1	14/2	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
14/3	14/4	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
15/2	15/3	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
15/3	15/4	Intermittent Crs.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
15/5	16/1	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
16/1		Wetland	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
16/5	17/1	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
17/5	18/1	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
18/4	18/5	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
19/1		Intermittent Crs. Wetland	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	

Span		Waterbody	T&E?	Method	Herbicide	Application Technique	Buffer	Other
To	From							
20/1	20/2	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
20/2	20/3	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
20/5	21/1	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
21/3	21/4	Intermittent Crs.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
22/2	22/3	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
23/3	23/4	Swale Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
24/3	24/4	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
25/3	25/4	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
27/5		Wetland	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
28/1	28/2	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
29/1	29/2	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
29/3	29/4	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
30/4	30/5	North Luna Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
30/5	31/1	Intermittent Creek	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	
32/3	32/4	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
33/4	33/5	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
33/5	34/1	Intermittent Creek	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
34/4	34/5	Intermittent Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
34/5	35/1	Perennial Cr.	N	See #2 below.	See #2 below.	See #2 below.	See #2 below.	Spanned Canyon
35/3 +800		Rock Cr.	Y	See #1 below.	See #1 below.	See #1 below.	See #1 below.	Spanned Canyon

#1. Buffers for T&E Streams

State and/or Private lands within 122 m (400 ft.) of a listed stream.

Available methods: manual, mechanical, spot and localized herbicide, broadcast treatments, and biological treatments.

Manual: Hand tools and chainsaws.

Mechanical: No mechanical within 100 feet of streams except for tower sites and access roads.

Herbicide: From 0 to 100 feet away from water, use only practically non-toxic formulations of triclopyr-TEA (Garlon 3A) and glyphosate (Rodeo®) using wick and spot-foliar treatments (localized) and ground broadcast treatments with handgun only. See buffer table.

From 100 to 400 feet away from water use appropriate buffers as described in the buffer table. Highly toxic and very highly toxic (to fish) herbicides will not be used within 100 feet of a T&E Stream. See buffer table.

#2. Buffers for non T&E streams:

Land 100 ft of a stream, water and wetlands.

Available methods: all manual, spot and localized herbicide, and biological treatments. No mechanical treatments within 50 feet of streams or wetlands.

Manual: Hand tools and chainsaws

Mechanical: No mechanical within 50 feet of streams except for tower sites and access roads.

Herbicide: Only Non-toxic formulations and slightly toxic (to aquatic species) formulations of glyphosate (such as Rodeo®), dicamba (Trooper/Vanquish), Telar, Escort, clopyralid, picloram, and 2-4-d may be prescribed for wick, and spot-foliar treatments (localized). Ground Broadcast treatments can be completed with the appropriate buffers on noxious weeds, access roads and tower sites.

HERBICIDE	Ground water Advisory	Surface Water Advisory	Highest Aquatic Toxicity Invertebrates/Vertebrates	Spot treat	Localized	Broadcast	Aerial
Transline Clopyralid	X		Practically Non Toxic	25 ft	35 ft	100 ft	250 ft
2,4-d Dimethyl amine Salt	X		Practically Non Toxic	25 ft	35 ft	100 ft	250 ft
Glypro/Accord Glyphosate			Practically Non Toxic	Up to edge	Up to edge	35 ft	100 ft
2,4-d Dodecyl/amine salt	X		Slightly toxic	25 ft	35 ft	100 ft	250 ft
Tordon 22K picloram	X	X	Moderately Toxic	25 ft	35 ft	100 ft	250 ft

Vanquish dicamba	X	X	Slightly Toxic	25 ft	35 ft	100 ft	250 ft
Escort Metsulfuron methyl			Practically Non Toxic	Up to edge	Up to edge	35 ft	100 ft
Telar Chlorosulfuron			Practically Non Toxic	Up to edge	Up to edge	35 ft	100 ft
Garlon 3A Triclopyr			Practically Non Toxic	Up to edge	Up to edge	35 ft	100 ft
Garlon 4* Triclopyr			Highly Toxic	35 ft	100 ft	400 ft	400 ft
Oust Sulfometuron methyl		X	Slightly Toxic	25 ft	35 ft	100 ft	250 ft

Buffers:

Non-toxic and slightly toxic formulations of Glyphosate, Escort, Telar, and Garlon 3A may be used to the waters edge when using spot and localized treatments.

Garlon 4* may be used may be used when more than 35 feet from streams and seasonally dry wetlands when not within a T&E salmon stream. More than 60 feet for T&E salmon stream.

The buffers for dicamba, 2,4-d, clopyralid, and Picloram are 25 feet for spot treatment and 35 feet for localized treatments, 100 feet for ground broadcast, and 250 for aerial applications.

Ground Broadcast treatment buffers will be 35 feet for approved formulations of Glyphosate, Escort, Telar, and Garlon 3A.

3.2 If planning to use herbicides, list locations of any known irrigation source, wells, or springs (landowners maybe able to provide this info if requested).

See Handbook — [Herbicide Use Near Irrigation, Wells or Springs](#) for buffers and herbicide restrictions.

35/1+500 – Well. Buffer restriction – 164’ circumference – no herbicide.

3.3 List below the areas that have Threatened or Endangered Plant or Animal Species and the name of the species, and any special measures that need to be taken due to their presence. Attach any BAs, T&E maps, or letters from US Fish and Wildlife.

See Handbook — [T&E Plant or Animal Species](#) for requirements and determining presence.

Span From	T&E Species	Method/mitigation or avoidance measures
35/3 +500	Rock Cr. – Summer Steelhead	See buffer description #1 in Section 3.1.

3.4 List any other measures to be taken for enhancing wildlife habitat or protecting species.

See Handbook — [Protecting Other Species](#) for requirements.

Control and management of noxious weeds will improve habitats.

3.5 List any visually sensitive areas and the measures to be taken at these areas.

See Handbook — [Visual Sensitive Areas](#) for requirements.

Limit use of broadcast foliar application of herbicide to reduce the creation of large areas of browned vegetation.

3.6 List areas with cultural resources and the measures to be taken in those areas.

See Handbook – [Cultural Resources](#) for requirements.

None identified. No ground disturbance planned.

3.7 List areas with steep slopes or potential erosion areas and the measure and methods to be applied in those areas.

See Handbook – [Steep/Unstable Slopes](#) for requirements.

Throughout project area:

- § Do not use ground (soil)-disturbing mechanical equipment to clear on slopes over 20%.
- § Avoid using granular or total vegetation management (non-selective) herbicides on slopes over 10%.
- § Do not use herbicides that have surface water advisories.
Perform mechanical clearing when the ground is dry enough to sustain heavy equipment.

3.8 List areas of spanned canyons and the type of cutting needed.

See Handbook – [Spanned Canyons](#) for requirements.

See Section 3.1 for spanned canyons. Only individual tall growing vegetation would be cut if tree to conductor distance = 40' or less.

4. DETERMINE VEGETATION CONTROL METHODS

See Handbook — [Methods](#)

4.1 List Methods that will be used in areas not previously addressed in steps above.

See Handbook — [Manual](#), [Mechanical](#), [Biological](#), [Herbicides](#) for requirements for each of the methods.

APPLICATION METHOD DESCRIPTIONS

Manual control methods - pulling weeds; cutting with shears, clippers, chainsaws, brush saws, or axes; and girdling by cutting a ring around the trunk of the tree.

Mechanical control methods - chopper/shredders, walking brush controllers, mowers, feller-buncher machines, roller-choppers, and blading.

Spot Herbicide Application

A spot application treats individual plant(s) with the least amount of chemicals possible. The methods include, but are not limited, to the following:

Stump treatments. Herbicide is applied by hand (squirt bottle) or backpack to freshly cut stumps of broadleaf trees and shrubs to prevent re-sprouting.

Injection and notch treatments. Herbicide is injected into the tree around the base using tubular injectors (lances); or herbicide is squirted or sprayed into frills, notches, or cups chopped around the base of individual trees or shrubs. These very selective treatments are only used for specific trees or shrubs and within sensitive areas such as near water.

Wick and carpet roller applications. The herbicide is wiped on the plant(s) (noxious weeds) using hand held or equipment mounted rope wicks, sponges, fiber covered wipers, or carpet wiper designs. This application device uses saturated ropes, wick or sponges that are used to apply the herbicide selectively on the plant. This method is effective where drift or sensitive water sources are a concern.

Localized Herbicide Application

“Localized” herbicide application is the treatment of individual or small groupings of plants. This application method is normally used only in areas of low-to-medium target-plant density. The application methods for this application group include, but are not limited to, the following:

Basal treatment. The herbicides are applied by hand (squirt bottle) or by backpack. Herbicides are applied at the base of the plant (the bark or stem) from the ground up to knee height. The herbicide is usually mixed with an oil carrier to enhance penetration through the bark, and applied to the point short of run-off. These treatments can be done during the dormant season or active growing season.

Low-volume foliar treatment. Herbicides are applied with the use of a backpack sprayer, all terrain vehicle (ATV), or tractor with a spray gun. Herbicide is applied to the foliage of individual or clumps of plants during the growing season, just enough to wet them lightly. A relatively high percentage of herbicide is used mixed with water. Thickening agents are added where necessary to control drift. Dyes may also be added to see easily what areas have been treated.

Localized granular application. Granular or pellet forms of herbicide are hand-applied to the soil surface beneath the driplines of an individual plant, or as close to a tree trunk or stem base as possible. Herbicide is applied when there is enough moisture to dissolve and carry the herbicide to the root zone—but not so much water that it washes the granules off-site.

Broadcast Ground Herbicide Application

Broadcast herbicide applications treat an area, rather than individual plants. Broadcast applications are used to treat right-of-ways that are thickly vegetated (heavy stem density), access roads, and noxious weeds. The application methods for this group include, but are not limited to, the following:

High-volume foliar treatments. Herbicides are applied by truck, ATV, or tractor with a spray gun, broadcast nozzle, or boom. A hydraulic sprayer mounted on a rubber-tired tractor or truck or tracked-type tractor is used to spray foliage and stems of target vegetation with a mixture of water and a low percentage of herbicide. The herbicide mixture is pumped through hoses to a hand-held nozzle. A worker activates the nozzle and directs the spray to the target vegetation. Boom application methods involve a fixed nozzle or set of nozzles that spray a set width as the tractor passes over an area.

Cut-stubble treatment. Herbicide is sprayed from a truck with a mounted boom over large swaths of freshly mechanically cut areas. This treatment is the broadcast style of cut-stump treatments. It is intended to keep plants from re-sprouting.

5. DETERMINE DEBRIS DISPOSAL AND REVEGETATION

5.1 Describe the debris disposal methods to be used and any special considerations.

See Handbook — [Debris disposal](#) for a checkbox list and requirements.

If occasional tree is cut, slash will be lopped and scattered or mulched.

5.2 List areas of reseeded or replanting (those areas not already described in steps 1, 2, or 3).

See Handbook — [Reseeding/replanting](#) for requirements.

See above seed mixture.

5.3 If not using native seed/plants, describe why.

Soils and adaptation of introduced species are more competitive with noxious weeds. Efforts will be made to include native species into seed mixtures.

5.4 Describe timing and any follow-up that will need to take place to ensure germination/success of seeding/planting.

Seeding should be completed when there is enough moisture to allow for 2 months of growth. Seeding can be completed early and late fall, or late winter or early spring.

6. DETERMINE MONITORING NEEDS

See handbook — [Monitoring](#) for requirements.

6.1 Describe the follow-up/monitoring cycle that will be used to evaluate the effectiveness of the vegetation control methods used.

ROW will be inspected during treatment. In addition, routine patrols by BPA ground and aerial patrols as well as weed board members.

6.2 Describe any follow-up or monitoring needed to determine if mitigation measures were effective.

None.

7. PREPARE APPROPRIATE ENVIRONMENTAL DOCUMENTATION

See handbook — [Prepare Appropriate Environmental Documentation](#) for requirements. . Also prepare Supplement Analysis — [Supplement Analysis](#) — for signature.

7.1 Describe any potential project impacts or project work that are different than those disclosed in the Transmission System Vegetation Management Program EIS. Describe how those differences impact natural resources and if the differences are “substantial”.

None

7.2 Is there a need for additional NEPA documentation (i.e. Forest Service requirement, Record of Decision, supplemental EIS)? If so, attach.

None